

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A method for use in a cable television receiver to switch from a non-module tuning mode to a module tuning mode, the method comprising the steps of:

presenting a video program signal selected by a user while in the non-module tuning mode;

detecting a cable tuning module in the cable television receiver;

acquiring module tuning data for tuning a plurality of channels available for selection responsive to the detection of the cable tuning module during presentation of the video program signal while in the non-module tuning mode; and

~~switching from the non-module tuning mode to the module tuning mode responsive to a measure of~~based at least in part on the acquired module tuning data for tuning the plurality of channels available for selection.

2. (Original) The method of claim 1, wherein the switching step comprises the steps of:

determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels; and

switching from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels.

3. (Original) The method of claim 1, wherein the cable television receiver is configured to tune channels for viewing by a user and wherein the switching step comprises the steps of:

determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels;

soliciting user input to switch from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels; and

switching from the non-module tuning mode to the module tuning mode responsive to the solicited user input.

4. (Currently Amended) A method for use in a cable television receiver to switch from a non-module tuning mode to a module tuning mode, the method comprising the steps of:

detecting a cable tuning module in the cable television receiver;

acquiring module tuning data responsive to the detection of the cable tuning module;
and

switching from the non-module tuning mode to the module tuning mode responsive to a measure of the acquired module tuning data, wherein the switching step comprises calculating a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data and elapsed time since the cable tuning module was detected, and switching from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value.

5. (Previously Presented) A method for use in a cable television receiver to switch from a non-module tuning mode to a module tuning mode, the method comprising the steps of:

detecting a cable tuning module in the cable television receiver;

acquiring module tuning data responsive to the detection of the cable tuning module;
and

switching from the non-module tuning mode to the module tuning mode responsive to a measure of the acquired module tuning data, wherein the switching step comprises calculating a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data, and switching from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value;

wherein the module quality factor equals:

$NTC + ET/TSF$;

where NTC is the number of channels that may be tuned based on the acquired module tuning data, ET is elapsed time since the cable tuning module was detected, and TSF is a time scale factor.

6. (Original) The method of claim 1, wherein the acquiring step comprises the step of:

acquiring a first instance of each table within a set of critical tables, the set of critical tables enabling the tuning of at least one channel; and

wherein the switching step comprises the step of:

switching from the non-module tuning mode to the module tuning mode responsive to the acquisition of the first instance of each table within the set of critical tables.

7. (Original) The method of claim 6, wherein the step of acquiring the first instance of each table within the set of critical tables comprises the steps of:

acquiring a Carrier Definition Sub-table, the Carrier Definition Sub-table defining actual frequencies of one or more channels;

acquiring a Modulation Mode Sub-table, the Modulation Mode Sub-table defining modulation schemes for the one or more channels;

acquiring a Defined Channels Map table, the Defined Channels Map defining one or more virtual channels for use by the cable television receiver when in the module tuning mode; and

acquiring a Virtual Channels Map table, the Virtual Channels Map table identifying a virtual channel record for each of the defined virtual channels, each virtual channel record identifying an actual frequency defined by the Carrier Definition Sub-table and a modulation scheme defined by the Modulation Mode Sub-table.

8. (Original) The method of claim 1, further comprising the step of:

presenting a virtual channel reference number corresponding to a currently tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

9. (Original) The method of claim 1, further comprising the step of:

tuning to a virtual channel corresponding to a previously tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

10. (Currently Amended) A cable television receiver apparatus having a non-module tuning mode and a module tuning mode, the apparatus comprising:

a module interface configured to receive a cable tuning module; and

a processor coupled to the module interface; the processor configured to present a video program signal selected by a user while in the non-module tuning mode, detect a module inserted in the module interface, acquire module tuning data for tuning a plurality of channels available for selection from the module responsive to the detection of the module during presentation of the video program signal while in the non-module tuning mode, and switch from the non-module tuning mode to the module tuning mode ~~responsive to a measure of~~ based at least in part on the acquired module tuning data for tuning the plurality of channels available for selection.

11. (Original) The apparatus of claim 10, wherein the processor is further configured to determine if the acquired module tuning data enables at least a predetermined number of channels to be tuned and switches from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels.

12. (Original) The apparatus of claim 10, further comprising:

a presentation device coupled to the processor that presents a solicitation graphic soliciting user input to switch from the non-module tuning mode to the module tuning mode;

wherein the processor is further configured to tune channels for viewing by a user, determine if the acquired module tuning data enables at least a predetermined number of channels to be tuned, and present the user with the solicitation graphic when the processor is able to tune at least the predetermined number of channels and wherein the processor

switches from the non-module tuning mode to the module tuning mode responsive to the solicited user input.

13. (Original) The apparatus of claim 10, wherein the processor is further configured to calculate a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data and switches from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value.

14. (Previously Presented) A cable television receiver apparatus comprising:

a module interface configured to receive a cable tuning module; and

a processor coupled to the module interface, the processor configured to detect a module inserted in the module interface, acquire module tuning data from the module responsive to the detection of the module, switch from a non-module tuning mode to a module tuning mode responsive to a measure of the acquired module tuning data, calculate a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data, and switch from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value;

wherein the module quality factor equals:

$$NTC + ET/TSF;$$

where NTC is the number of channels that may be tuned based on the acquired module tuning data, ET is elapsed time since the cable tuning module was detected, and TSF is a time scale factor.

15. (Original) The apparatus of claim 10, wherein the processor is configured to acquire a first instance of each table within a set of critical tables, the set of critical tables enabling the tuning of at least one channel, and the processor switches from the non-module tuning mode to the module tuning mode responsive to the acquisition of the first instance of each table within the set of critical tables.

16. (Original) The apparatus of claim 15, wherein the set of critical tables comprises:

a Carrier Definition Sub-table, the Carrier Definition Sub-table defining actual frequencies of one or more channels;

a Modulation Mode Sub-table, the Modulation Mode Sub-table defining modulation schemes for the one or more channels;

a Defined Channels Map table, the Defined Channels Map defining one or more virtual channels for use by the cable television receiver when in the module tuning mode; and

a Virtual Channels Map table, the Virtual Channels Map table identifying a virtual channel record for each of the defined virtual channels, each virtual channel record identifying an actual frequency defined by the Carrier Definition Sub-table and a modulation scheme defined by the Modulation Mode Sub-table.

17. (Original) The apparatus of claim 10, further comprising:

a presentation device coupled to the processor;

wherein the processor is configured to present a virtual channel reference number on the presentation device corresponding to a currently tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

18. (Original) The apparatus of claim 10, wherein the processor is configured to tune to a virtual channel corresponding to a previously tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

19. (Currently Amended) A system for use in a cable television receiver to switch from a non-module tuning mode to a module tuning mode, the system comprising:

means for presenting a video program signal selected by a user while in the non-module tuning mode;

means for detecting a cable tuning module in the cable television receiver;

means for acquiring module tuning data for tuning a plurality of channels available for selection responsive to the detection of the cable tuning module during presentation of the video program signal while in the non-module tuning mode; and

means for switching from the non-module tuning mode to the module tuning mode ~~responsive to a measure of~~based at least in part on the acquired module tuning data for tuning the plurality of channels available for selection.

20. (Original) The system of claim 19, wherein the switching means comprises:

means for determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels; and

means for switching from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels.

21. (Original) The system of claim 19, wherein the cable television receiver is configured to tune channels for viewing by a user and wherein the switching means comprises:

means for determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels;

means for soliciting user input to switch from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels; and

means for switching from the non-module tuning mode to the module tuning mode responsive to the solicited user input.

22. (Original) The system of claim 19, wherein the switching means comprises:

means for calculating a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data; and

means for switching from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value.

23. (Original) The system of claim 19, wherein the acquiring means comprises:

means for acquiring a first instance of each table within a set of critical tables, the set of critical tables enabling the tuning of at least one channel; and

wherein the switching means comprises:

means for switching from the non-module tuning mode to the module tuning mode responsive to the acquisition of the first instance of each table within the set of critical tables.

24. (Original) The system of claim 19, further comprising:

means for presenting a virtual channel reference number corresponding to a currently tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

25. (Original) The system of claim 19, further comprising:

means for tuning to a virtual channel corresponding to a previously tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

26. (Currently Amended) A tangible computer readable storage medium including software that is configured to control a computer to implement a method for use in a cable television receiver to switch from a non-module tuning mode to a module tuning mode, the method including the steps of:

presenting a video program signal selected by a user while in the non-module tuning mode;

detecting a cable tuning module in the cable television receiver;

acquiring module tuning data for tuning a plurality of channels available for selection responsive to the detection of the cable tuning module during presentation of the video program signal while in the non-module tuning mode; and

switching from the non-module tuning mode to the module tuning mode ~~responsive to a measure of~~based at least in part on the acquired module tuning data for tuning the plurality of channels available for selection.

27. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the switching step for implementation by the computer comprises the step of:

determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels; and

switching from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels.

28. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the cable television receiver is configured to tune channels for viewing by a user and wherein the switching step for implementation by the computer comprises the step of:

determining if the acquired module tuning data enables the cable television receiver to tune at least a predetermined number of channels;

soliciting user input to switch from the non-module tuning mode to the module tuning mode when the cable television receiver is able to tune at least the predetermined number of channels; and

switching from the non-module tuning mode to the module tuning mode responsive to the solicited user input.

29. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the switching step for implementation by the computer comprises the step of:

calculating a module quality factor based at least in part on a number of channels that may be tuned using the acquired module tuning data; and

switching from the non-module tuning mode to the module tuning mode automatically responsive to the module quality factor having a value greater than a threshold value.

30. (Previously Presented) The tangible computer readable storage medium of claim 29, wherein the calculating step for implementation by the computer comprises the step of:

calculating $NTC + ET/TSF$;

where NTC is the number of channels that may be tuned, ET is elapsed time since the cable tuning module was detected, and TSF is a time scale factor.

31. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the acquiring step for implementation by the computer comprises the step of:

acquiring a first instance of each table within a set of critical tables, the set of critical tables enabling the tuning of at least one channel; and

wherein the switching step for implementation by the computer comprises the step of:

switching from the non-module tuning mode to the module tuning mode responsive to the acquisition of the first instance of each table within the set of critical tables.

32. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the method implemented by the computer further includes the step of:

presenting a virtual channel reference number corresponding to a currently tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.

33. (Previously Presented) The tangible computer readable storage medium of claim 26, wherein the method implemented by the computer further includes the step of:

tuning to a virtual channel corresponding to a previously tuned physical channel responsive to switching from the non-module tuning mode to the module tuning mode.